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Lorence, Argelia  
Chevone, Boris  
Mendes, Pedro

<120> Manipulation of Ascorbic acid Levels in Plants

<130> 01640421aa

<150> US 60/433,787

<151> 2002-12-17

<150> PCT/US03/27779

<151> 2003-09-08

<160> 4

<170> PatentIn version 3.2

<210> 1

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic oligonucleotide primer for miox gene (forward)

<400> 1

cccatggcga tctctgttga g

21

<210> 2

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic oligonucleotide primer for miox gene (reverse)

<400> 2

ccggatcctc accacctcaa g

21

<210> 3

<211> 954

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> Source

<222> (1)..(954)

<223> nucleic acid sequence of A. thaliana miox4 cDNA PCR product

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ggggacaata tcggagagtt gaaattggac ggaggatttt cgatgccgaa aatggacacc 120

aatgacgacg aagctttttt ggctcctgag atgaatgcat ttggccgcca attcagggac 180

Sequence Listing US.ST25.txt

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gtgatgagca tttgggaatg ttgtgagctt ctcaatgagg ttgtggatga gagtgatcca	360
gatcttgacg agccccagat tcagcatttg cttcaatctg ccgaagccat ccgcaaagat	420
taccctaatag aagattggct tcatctgacc gctcttatcc atgatcttgg gaaagttatt	480
actcttccac aattcggagg acttcctcaa tgggctgttg ttggtgacac attccctggt	540
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cacaacgaaa cctacaacac taaaaatggg atttactctg aagggtgtgg attaaacaat	660
gtcatgatgt cttggggcca tgacgactac atgtacctgg tggctaaaga aaacggaagt	720
accttgccgt cggctggaca gtttatcata agataccact ccttttacct tttgcacacg	780
gctggagaat acacccatct tatgaacgag gaagacaagg agaatctgaa gtggctacac	840
gttttcaaca agtacgactt gtacagtaag agcaaagttc acgttgatgt ggagaaggtc	900
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<210> 4  
 <211> 318  
 <212> PRT  
 <213> Arabidopsis thaliana

<220>  
 <221> Source  
 <222> (1)..(318)  
 <223> Amino acid sequence of A. thaliana miox4 cDNA product

<400> 4

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Phe	Ser	Met	Pro	Lys	Met	Asp	Thr	Asn	Asp	Asp	Glu	Ala	Phe	Leu	Ala
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Pro	Glu	Met	Asn	Ala	Phe	Gly	Arg	Gln	Phe	Arg	Asp	Tyr	Asp	Val	Glu
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Ser	Glu	Arg	Gln	Lys	Gly	Val	Glu	Glu	Phe	Tyr	Arg	Leu	Arg	His	Ile
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Asn	Gln	Thr	Val	Asp	Phe	Val	Lys	Lys	Met	Arg	Ala	Glu	Tyr	Gly	Lys
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Sequence Listing US.ST25.txt

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 Glu Val Val Asp Glu Ser Asp Pro Asp Leu Asp Glu Pro Gln Ile Gln  
 115 120 125  
 His Leu Leu Gln Ser Ala Glu Ala Ile Arg Lys Asp Tyr Pro Asn Glu  
 130 135 140  
 Asp Trp Leu His Leu Thr Ala Leu Ile His Asp Leu Gly Lys Val Ile  
 145 150 155 160  
 Thr Leu Pro Gln Phe Gly Gly Leu Pro Gln Trp Ala Val Val Gly Asp  
 165 170 175  
 Thr Phe Pro Val Gly Cys Ala Phe Asp Glu Ser Asn Val His His Lys  
 180 185 190  
 Tyr Phe Val Glu Asn Pro Asp Phe His Asn Glu Thr Tyr Asn Thr Lys  
 195 200 205  
 Asn Gly Ile Tyr Ser Glu Gly Cys Gly Leu Asn Asn Val Met Met Ser  
 210 215 220  
 Trp Gly His Asp Asp Tyr Met Tyr Leu Val Ala Lys Glu Asn Gly Ser  
 225 230 235 240  
 Thr Leu Pro Ser Ala Gly Gln Phe Ile Ile Arg Tyr His Ser Phe Tyr  
 245 250 255  
 Pro Leu His Thr Ala Gly Glu Tyr Thr His Leu Met Asn Glu Glu Asp  
 260 265 270  
 Lys Glu Asn Leu Lys Trp Leu His Val Phe Asn Lys Tyr Asp Leu Tyr  
 275 280 285  
 Ser Lys Ser Lys Val His Val Asp Val Glu Lys Val Glu Pro Tyr Tyr  
 290 295 300  
 Met Ser Leu Ile Lys Lys Tyr Phe Pro Glu Asn Leu Arg Trp  
 305 310 315